**Mechanics: Momentum Note Guide Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Part I – Definitions:**

Momentum Impulse

Elastic Collisions Inelastic Collisions

**Part II – Conservation of Momentum in Collisions**

**Elastic:**

**BEFORE AFTER**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Inelastic:**

**BEFORE AFTER**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Part III – Collisions and Conservation of Energy:**

* In inelastic collisions the total energy \_\_\_\_\_\_\_\_\_\_ conserved.
* In elastic collisions the total energy \_\_\_\_\_\_\_\_\_\_ conserved.

**Part IV – Applying an Impulse**

***Δp = F Δt***

* In order to apply the same impulse (change in an object’s momentum), we can either increase the amount of \_\_\_\_\_\_\_\_\_\_\_\_ the force is applied OR increase the \_\_\_\_\_\_\_\_\_\_\_\_\_ for the time applied.
* Give three examples of where the time of an impulse is increased in order to decrease the amount of applied force.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part V – Equations:**

|  |  |
| --- | --- |
| **Momentum** |  |
| **Impulse** |  |
| **Conservation of Momentum**  **(Elastic Collisions)** |  |
| **Conservation of Momentum**  **(Inelastic Collisions)** |  |